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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/789,735 | 02/27/2004 | John Erik Lindholm | 019680-007600US | 8423 |
| 20350 | 7590 | 03/22/2005 | EXAMINER | |
| TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834 | | | TUNG, KEE M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2676 | |

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/789,735 | LINDHOLM ET AL. |
| | Examiner | Art Unit |
| | Kee M Tung | 2676 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 27 February 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-9, 11-21 and 28 is/are rejected.
- 7) Claim(s) 10 and 22-27 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9, 11-21 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larson et al (5,793,386 hereinafter "Larson") in view of Wichman et al (US 2004/0227763 hereinafter "Wichman").

Larson teaches a method of texturing a pixel (Figs. 1 and 2) comprising storing a texture argument (such as, texture coordinates, x, y, z in the display list) in a general purpose register of a register file (150); issuing a texture command (such as, instruction and/or command in the display list) to a texture request buffer (115), wherein the texture command is associated with the texture argument (such as, display list); retrieving the texture command from the texture request buffer (col. 5, lines 44-47); retrieving the texture argument from the general purpose register (col. 5, lines 44-47); and executing the texture command to produce a final texture value (135). It is noted that Larson fails to explicitly teach or suggest, the register file includes source, destination and general purpose registers. However, it would have been obvious to one of ordinary skill in the art at the time the present invention was made that the register file includes all the different name registers because a source register is a register which stores a original data and a destination register is a register which stores the operation resulted data and

a general purpose register is a register which stores general data. Furthermore, this is what Wichman teaches. Wichman teaches a processor (102) includes a register files (208) having at least a source register (paragraph 58) and a destination register (paragraph 57). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to combine the teachings of separate registers in the register files of Wichman into the system and/or method of Larson in order to provide more efficiently and effectively accessing of the register files and thus to increase the performance of the graphics processing system. Therefore, at least claims 1 and 12 would have been obvious.

As per claim 2, the combined system fails to explicitly teach or suggest, store the final texture value in the general purpose register of the register file and thereby overwriting the texture argument. However, it would have been obvious to one of ordinary skill in the art at the time the present invention was made to use any well known replacement algorithm, such as, LRU (least recent used) to replace or overwriting the old data and stored the new data.

As per claim 3, Wichman teaches the final texture value is stored in a second general purpose register of the register file (such as, destination register of the register files 208).

As per claims 4-6, Larson teaches the texture command includes a texture parameter which specifies a texture mapping type (such as, texture mapping parameter in the display list, see Table v(b)).

As per claims 7 and 8, Wichman teaches identifying the general purpose register from the texture parameter and specifies the general purpose register as a destination register to store the final texture value (paragraph 57).

As per claim 9, Wichman teaches specifying the general purpose register storing the texture argument (such as, source register, paragraph 58) and a second general purpose register to stored the final texture value (destination register paragraph 57).

As per claim 11, Larson teaches the register file and the texture request buffer are included in a first execution unit (considered the graphics processor 100 or part of the graphics processor as the first execution unit) and repeat the steps in claim 1.

The system claims 13-21 are similar in scope to claims 1-9 and 11, and thus are rejected under similar rationale.

As per claim 28, the combined system fails to explicitly teach or suggest a texture memory for storing texture map. However, this is an inherently feature in the graphics system with the texture mapping feature in order to store the texture mapping data, the texture memory some times also called texture cache in the art.

Allowable Subject Matter

3. Claims 10 and 22-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
4. The following is a statement of reasons for the indication of allowable subject matter:

The prior art fails to anticipate or make obvious the claimed invention. Specially, the prior art fails to teach or suggest, in combination with the remaining steps and/or elements, locking and unlocking the general purpose register (or source and/or destination register) ... as recited in claims 10, 22, and 23; and a second execution unit comprising as recited in claim 24.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kee M Tung whose telephone number is 571-272-7794. The examiner can normally be reached on Tuesday - Friday from 5:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kee M Tung
Primary Examiner
Art Unit 2676